Eventually, living wills came to be seen as a vehicle for achieving greater wisdom and skill in a fundamental aspect of health care and a civilised approach to mortality. Advance care planning is a process of discussion, a component of care. Worksheets are for helping reflection and deliberation, and for team building between the professionals and families and the patient. Legal documentation has a small but legitimate role. The outcomes are quality experiences for the dying person and for those caring for him or her. Most people facing terminal illness want to secure dignity, comfort, control, and a chance to leave a purposeful legacy. They do not want to burden their loved ones. Advance care planning with quality care at the end of life can, if done well, provide these things for most people.[14]

Talking to dying patients

And yet, few doctors or patients initiate discussions on advance care planning. It is possible that a natural ceiling exists, in that only about half of patients have estate planning wills, let alone living wills.[15] But progress may be hard to measure and better than we think. The best discussions and plans for care may never be documented in a discrete, recognisable living will. Desired outcomes of peace and resolution are hard to measure and hard to compare with a suitable control group.

It is likely that most of us could improve the way we talk with, plan with, and care for patients and their families as they approach death. Validated worksheets need to be developed for different populations. Outcome measures for quality care at the end of life will need to be more sophisticated and focused on subjective, meaningful experiences of patients and families.[16]

Skills in breaking bad news and sharing decisions can be adapted for different cultures; skills in discerning the needs of the proxy or family and supporting them for the patient can be made suitable as well. Dying is, in the end, normal in all contexts and the challenge is the same: can we really care for those of us who are facing our last life chapter?

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Towards better treatment of glaucoma

Recent advances could have a major impact on preventing damage worldwide

The glaucomas are characterised by a specific type of optic nerve damage and visual field loss. This group of diseases is the most important cause of irreversible blindness worldwide: an estimated 66.8 million people have glaucoma, 6.7 million of whom are bilaterally blind.[1]

The ability to detect the development and progression of glaucoma has been improved by the use of high resolution laser scanning to detect damage to the head of the optic nerve and by advanced computerised visual field assessment which detects defects in the visual field. Thus, treatment may now be offered before too much irreversible damage has occurred.[2]

Treatments for glaucoma work to lower intraocular pressure, which is still the major risk factor for the disease. Glaucoma can be treated medically, surgically, or with lasers. Recently, large scale clinical trials have shown that lowering intraocular pressure can slow disease progression, even in patients with intraocular pressure that is statistically "normal" (so called normal tension glaucoma).[3]

The mainstays of topical medical treatment have until recently been cholinergic agonists such as pilocarpine, which increase outflow of the aqueous humour but have serious ocular side effects, and topical β blockers, which reduce aqueous secretion but have cardiovascular and respiratory side effects, particularly in elderly patients.[4] Once a day formulations of these agents have been useful, but newer topical agents seem to have fewer local or systemic side effects.

Oral carbonic anhydrase inhibitors, such as acetazolamide, reduce aqueous secretion and are effective in lowering pressure. Unfortunately, the systemic side effects, which include lassitude, paraesthesia, and rarer complications such as renal stones, have limited

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their long term use. Topical formulations of these inhibitors, such as dorzolamide, are a useful addition to available treatments, although they are not as effective as the oral forms.

The α-2 adrenergic agonists (for example, apraclonidine and brimonidine) also provide a new class of topical treatment. Apraclonidine has been particularly useful in preventing the rise in intraocular pressure that occurs after intraocular laser procedures. These drugs, however, can cause local allergy.

The most interesting new class of topical medication is the prostaglandin agonists, such as latanoprost. This drug lowers intraocular pressure by opening up an alternative pathway for aqueous outflow (the uveoscleral pathway) by altering the resistance of the extracellular matrix. This has a greater effect on lowering pressure than β blockers. This drug is also given once a day and has few systemic side effects; however, it may occassionally cause some unusual side effects such as an increase in eyelash growth and an irreversible darkening of the iris.

Small, portable, solid state lasers have increased the availability and reliability of laser treatments. The Nd: YAG laser can cut holes in the iris to prevent or treat closed angle glaucoma. The treatment is non-invasive and can be carried out after administering only a few drops of local anaesthetic. The portability of these systems means that the acute blinding form of this glaucoma may be preventable even in the most rural parts of the world.[5]

Another type of portable, solid state laser (the diode) is useful in advanced cases of glaucoma. It burns the ciliary body, reduces production of the aqueous humour, and can reduce intraocular pressures even in refractory disease.[6] Diode lasers are superior to the traditional cryotherapy probe, achieving the same reduction in pressure with fewer side effects.

Surgery is rarely the first treatment

There have also been advances in surgical treatment. Surgery can be superior to medical or laser treatment in controlling intraocular pressure and preserving vision, although this may not be the case among all ethnic groups.[7 8] However, surgery is rarely used as the first treatment[9] because complications can occur, such as overdrainage in the early postoperative period and blockage of the surgical fistula, which can cause scarring. Techniques have been introduced to prevent overdrainage, such as using tight sutures that can be released either by pulling a slip knot or cutting with a laser. Modified methods of performing filtration surgery, which usually involves leaving a very thin layer of the trabecular meshwork behind to provide some resistance, may reduce early hypotony, although prospective randomised studies suggest that these methods may not be as good as older methods at lowering intraocular pressure.[10]

The use of relatively inexpensive anticancer agents such as fluorouracil and mitomycin at the time of surgery has revolutionised these procedures, particularly in patients at a high risk of failure due to scarring. In this group of patients (for example, those with previous attempts at filtration surgery that have failed or previous intraocular surgery such as cataract surgery), these agents have halved the failure rate.[11] However, their use may be associated with a new series of complications such as infection and vision impairment caused by low pressures. Choosing the appropriate agent for different populations of patients may minimise complications.[12]

Large prospective studies are now under way to determine whether these agents should be used in all patients undergoing glaucoma surgery. This is particularly important since filtration surgery is the only practical treatment for glaucoma in many countries.

The ultimate aim is reversal of damage

Most of the advances in treating glaucoma involve lowering intraocular pressure—the most important modifiable risk factor in this group of diseases. As our understanding of the pathogenesis of glaucoma increases, strategies may become directed towards the cellular and molecular processes in the development of optic neuropathy and vision loss in the glaucomas and, ultimately, not just the prevention of damage but the reversal of it.

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